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OF NEW VARIETIES OF
PLANTS

UNION INTERNATIONALE
POUR LA PROTECTION
DES OBTENTIONS
VÉGÉTALES

INTERNATIONALER
VERBAND ZUM SCHUTZ
VON PFLANZEN-
ZÜCHTUNGEN

UNIÓN INTERNACIONAL
PARA LA PROTECCIÓN
DE LAS OBTENCIONES
VEGETALES

DRAFT

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

**MEADOW FESCUE,
(*Festuca pratensis* Huds.)**

**TALL FESCUE
(*Festuca arundinacea*
Schreb.)**

These Guidelines should be read in conjunction with document TG/1/2, which contains explanatory notes on the general principles on which the Guidelines have been established.

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I. Subject of these Guidelines

These Test Guidelines apply to all varieties of Meadow Fescue (*Festuca pratensis* Huds.) and Tall Fescue (*Festuca arundinacea* Schreb.).

II. Material Required

1. The competent authorities decide when, where and in what quantity and quality the plant material required for testing the variety is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must make sure that all customs formalities are complied with. The minimum quantity of seed to be supplied by the applicant in one or several samples should be:

1,5 kg.

The minimum requirements for germination capacity, moisture content and purity should not be less than the marketing standard for certified seed accepted in the country. Especially for storage, which requires a higher standard, the applicant should state the actual germination capacity which should be as high as possible.

2. The seed must not have undergone any treatment unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

III. Conduct of Tests

1. The minimum duration of tests should normally be two independent growing cycles.

2. The tests should normally be conducted at one place. If any important characteristics of the variety cannot be seen at that place, the variety may be tested at an additional place.

3. The field tests should be carried out under conditions ensuring normal growth. The size of the plots should be such that plants or parts of plants may be removed for measuring and counting without prejudice to the observations which must be made up to the end of the growing period. As a minimum, each test should include a total of 60 spaced plants and 10 meters of row. Separate plots for observation and for measuring can only be used if they have been subject to similar environmental conditions.

4. Plots with spaced plants. Each test should consist of 60 single spaced plants for varieties arranged in 3 replicates or more replicates.

5. Row plots. Each test should consist of at least 10 meters of rows arranged in two or more replicates. The density of sowing should be such that about 160 to 200 plants per meter can be expected.

6. Additional tests for special purposes may be established.

IV. Methods and Observations

1. Unless otherwise stated, all observations on spaced plants should be made on 60 plants or part of plants.
2. Observations on rows should be made on each plot as a whole.
3. Where observations are also made in row plots, it is likely that the expression of the characteristic and its method of recording be different from the single spaced plants, as plants cannot be examined as discrete units.
4. Interpretation of results should be made according to the rules of cross-fertilized crops as stated in the general introduction to the Test Guidelines.

V. Grouping of Varieties

1. The collection to be grown should be divided into groups to facilitate the assessment of distinctness. Characteristics which are suitable for grouping purposes are those which are known from experience not to vary, or to vary only slightly, within a variety and which in their various states are fairly evenly distributed within the collection.
2. It is recommended that the competent authorities use the following characteristics for grouping varieties:
 - (a) Ploidy: (characteristic 1)
 - (b) Leaf: intensity of green color at the end of vegetation before vernalization (characteristic 5) for *Festuca arundinacea* only
 - (c) Plant: time of inflorescence emergence after period of vernalization (characteristic 8)
 - (d) Stem: length of longest stem (inflorescence included, when fully expanded) (characteristic 13) for *Festuca arundinacea* only

VI. Characteristics and Symbols

1. To assess distinctness, homogeneity and stability, the characteristics and their states as given in the three UPOV working languages in the Table of Characteristics should be used. For each characteristic it is indicated whether 'spaced plants' (A) or 'row plots' (B) or 'special tests' (C) should be used.
2. Notes (1 to 9), for the purposes of electronic data processing, are given opposite the states of the different characteristics.

3. Legend:

(*) Characteristics that should be used every growing period for the examination of all varieties and should always be included in the description of the variety, except when the state of expression of a preceding characteristic or regional environmental conditions render this impossible.

(+) See Explanations on the Table of Characteristics in Chapter VIII.

- 1) To be observed on A = spaced plants
B = row plots
C = special tests

VII. Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1.	C	Ploidy	Ploïdie	Ploidie	Ploidía		
(*)		diploid	diploïde	diploid	diploide	Cosmos 11(F.p)	2
		tetraploid	tétraploïde	tetraploid	tetraploide		4
		hexaploid	hexaploïde	hexaploid	hexaploide	Ibis (F.a.)	6
		octoploid	octoploïde	oktoploid	octoploide		8
		decaploid	décaploïde	dekaploid	decaploide	Kasba (F.a.)	10
		amphiploid(1)	amphiploïde(1)	amphiploid (1)	amfiloide (1)	Lunibelle (F.a)	11
2.	A B	Plant: tendency to form inflorescences without vernalization	Plante: tendance à l'épiaison sans vernalisation	Pflanze: Neigung zur Bildung von Blütenständen ohne Vernalisation	Planta: tendencia a formar inflorescencias sin vernalización		
(+)		absent or very weak	nulle ou très faible	fehlend oder sehr gering	ausente o muy débil	Ibis (F.a.) Cosmos 11 (F.p.)	1
		weak	faible	gering	débil	Comtessa (F.p.) Elфина (F.a.)	3
		medium	moyenne	mittel	media	Astérix (F.a.) Bundy (F.p.)	5
		strong	forte	stark	fuerte	Leprechaun (F.a)	7
		very strong	très forte	sehr stark	muy fuerte		9
3.	A	Plant: length at the end of vegetation before vernalization <u>only for F.p.</u>	Plante: longueur à la fin de la végétation avant vernalisation, <u>uniquement pour F.p.</u>	Pflanze: Länge am Ende des Wachstums vor Vernalisation <u>nur für F.p.</u>	Planta: longitud al final de la vegetación antes de la vernalización <u>solamente para F.p.</u>		
		short	courte	kurz	corta		3
		medium	moyenne	mittel	media	Bundy (F.p.)	5
		long	longue	lang	larga	Preval (F.p.)	7

(1) : Cross between 6x and 10x with a variable number of chromosomes. (1) : croisement entre 6x et 10x avec un nombre variable de chromosomes.

(1): Kreuzung 6x bis 10x mit einer variablen Chromosomenzahl. (1) : Cruzamiento entre 6 x y 10 x con número de cromosomas variable.

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
4. A	Plant: growth habit at the end of vegetation before vernalization <u>only for F.p.</u>	Plante: port à la fin de la végétation avant vernalisation <u>uniquement pour F.p.</u>	Pflanze: Wuchsform am Ende des Wachstums vor Vernalisation <u>nur für F.p.</u>	Planta: porte al final de la vegetación antes de la vernalización <u>solamente para F.p.</u>		
	semi-erect	demi-dressé	halbaufrecht	semi-erecta		3
	medium	moyen	mittel	media	Comtessa (F.p.)	5
	semi-prostrate	demi-étalé	halbliiegend	semi-postrada	Cosmos 11 (F.p.)	7
5. B	Leaf: intensity of green color at the end of vegetation before vernalization	Feuille: intensité de la couleur verte à la fin de la végétation avant vernalisation	Blatt: Intensität der Grünfärbung am Ende des Wachstums vor Vernalisation	Hoja: intensidad del color verde al final de la vegetación antes de la vernalización		
	very light	très claire	sehr hell	muy clara		1
	light	claire	hell	clara	Kasba (F.a.)	3
	medium	moyenne	mittel	media	Belimo Bundy (F.p.) Sopline (F.a.)	5
	dark	foncée	dunkel	oscura	Borneo (F.a.) Stella (F.p.)	7
	very dark	très foncée	sehr dunkel	muy oscura	Coronado (F.a.)	9
6. B	Foliage: fineness (as for 3) <u>only for F.a.</u>	Feuille: finesse (comme pour 3) <u>uniquement pour F.a.</u>	Laub: Feinheit (wie für 3) <u>nur für F.a.</u>	Follaje: finura (como para 3) <u>solamente para F.a.</u>		
	very fine	très fin	sehr fein	muy fino	Danielle (F.a.)	1
	fine	fin	fein	fino	Coronado (F.a.)	3
	medium	moyen	mittel	medio	Pastelle (F.a.)	5
	coarse	grossier	grob	grueso	Ibis (F.a.)	7

Plot ¹⁾ Parcelle ¹⁾ English Parzelle ¹⁾ Parcela ¹⁾	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
7. B	Plant: natural height after vernalization (about 4 weeks after beginning of vegetation)	Plante: hauteur naturelle après vernalisation (environ 4 semaines après le début de la végétation)	Pflanze: natürliche Höhe nach Vernalisation (ungefähr 4 Wochen nach Beginn der Vegetation)	Planta: altura después de la vernalización (approx. 4 semanas después del comienzo del crecimiento vegetativo)	
	short	basse	niedrig	baja	3
	medium	moyenne	mittel	media	Belimo (F.p.) 5
	long	haute	hoch	alta	Merifest (F.p.) 7
8. A (*) B (+)	Plant: time of inflorescence emergence after period of vernalization	Plante: époque d'épiaison après la période de vernalisation	Pflanze: Zeitpunkt des Erscheinens der Blütenstände nach der Vernalisationszeit	Planta: época de emergencia de la inflorescencia después del período de vernalización	
	very early	très précoce	sehr früh	muy temprana	Gardian (F.a.) 1
	early	précoce	früh	temprana	Ibis (F.a.), Salfat (F.p.) 3
	medium	moyenne	mittel	media	Cosmos 11 (F.p.), Villageoise (F.a.) 5
	late	tardive	spät	tarde	Barcel (F.a.) Bundy (F.p.), 7
	very late	très tardive	sehr spät	muy tarde	Bariane (F.a.) 9
9. A (+)	Plant: growth habit at <u>inflorescence emergence</u>	Plante: port à <u>l'épiaison</u>	Pflanze: Wuchsform bei <u>Erscheinen der Blütenstände</u>	Planta: porte a la <u>emergencia de la inflorescencia</u>	
	semi-erect	demi-dressé	halbaufrecht	semi-erecta	Cosmos 11 (F.p.) Leprechaun (F.a.) 3
	medium	moyen	mittel	media	Bundy (F.p.) 5
	semi-prostrate	demi-étalé	halbliegend	semi-postrada	7

Plot ¹⁾ Parcelle ¹⁾ Parzelle ¹⁾ Parcela ¹⁾	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
10. A	Plant: natural height at inflorescence emergence	Plante : hauteur naturelle à l'épiaison	Pflanze: natürliche Höhe bei Erscheinen der Blütenstände	Planta: altura a la emergencia de la inflorescencia		
	short	basse	niedrig	baja	Bundy (F.p.) Eldorado (F.a.)	3
	medium	moyenne	mittel	media	Adventure (F.a.) Cosmos 11 (F.p.)	5
	long	haute	hoch	alta	Ibis (F.a.) Preval (F.p.)	7
11. A (*)	Flag leaf: length (flag leaf on representative stem where inflorescence is fully expanded)	Dernière feuille: longueur (dernière feuille d'une tige représentative lorsque l'inflorescence est à la fin de l'élongation)	Fahnenblatt: Länge (Fahnenblatt an einem repräsentativen Halm, an dem der Blütenstand voll ausgebildet ist)	Última hoja: longitud (última hoja en tallo representativo cuando la inflorescencia está completamente expandida)		
	very short	courte	sehr kurz	muy corta		1
	short	très courte	kurz	corta	Bonaparte (F.a.) Dufa (F.p.)	3
	medium	moyenne	mittel	media	Comtessa (F.p.) Villageoise (F.a.)	5
	long	longue	lang	larga	Ibis (F.a.)	7
	very long	très longue	sehr lang	muy larga	Lunibelle (F.a.)	9
12. A (*)	Flag leaf: width (same flag leaf as that used for 11)	Dernière feuille: largeur (même feuille que celle utilisée pour 11)	Fahnenblatt: Breite (dasselbe Fahnenblatt wie für 11)	Última hoja: anchura (la misma hoja que como para 11)		
	narrow	étroite	schmal	estrecha	Bonaparte (F.a.)	3
	medium	moyenne	mittel	media	Bundy (F.p.) Villageoise (F.a.)	5
	wide	large	breit	ancha	Cosmos 11 (F.p.) Lunibelle (F.a.)	7

Plot ¹⁾ Parcelle ¹⁾ English Parzelle ¹⁾ Parcela ¹⁾	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota	
13. A (*)	Stem: length of longest stem (inflorescence included; when fully expanded)	Tige: longueur de la tige la plus longue (inflorescence incluse; à la fin de l'élongation)	Halm: Länge des längsten Halmes (einschließlich des Blütenstandes; wenn voll ausgebildet)	Tallo: longitud del tallo más largo (inflorescencia incluida; cuando está completamente expandida)		
	short	courte	kurz	corta	Bonaparte (F.a.) Bundy (F.p.)	3
	medium	moyenne	mittel	media	Aventure (F.a.) Comtessa (F.p.),	5
	long	longue	lang	larga	Ibis (F.a.) Senu (F.p.)	7
14. A	Inflorescence: length (when fully expanded)	Inflorescence: longueur (à la fin de l'élongation)	Blütenstand: Länge (wenn voll ausgebildet)	Inflorescencia: longitud (cuando está completamente expandida)		
	short	courte	kurz	corta	Dufa (F.p.) Murray (F.a.)	3
	medium	moyenne	mittel	media	Ibis (F.a.), Senu (F.p.)	5
	long	longue	lang	larga	Kasba (F.a.)	7

VIII. Explanations on the Table of Characteristics

Ad. 2: Plant: tendency to form inflorescences without vernalization

The number of plants showing at least three inflorescences should be recorded for each variety. To be assessed on one occasion on the whole trial when the varieties are judged to have reached their full expression of this characteristic.

Ad. 8: Plant: time of inflorescence emergence after period of vernalization

A. Plots with spaced plants

The date of inflorescence emergence of each single plant should be assessed. A single plant is considered to have headed when the tip of three inflorescences can be seen protruding from the flag leaf sheath. From the single plant data a mean date per plot and a mean date per variety is obtained.

B. Row plots

At each observation date the average plot stage should be expressed in one of the following growth stages:

- 1) Boot swollen
- 2) Tip of inflorescence just visible
- 3) 1/4 of inflorescence emerged
- 4) 1/2 of inflorescence emerged.

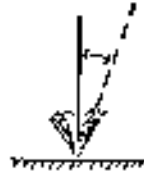
The date of inflorescence emergence is the date at which the average plot stage 2 has been reached. This date should--if necessary--be obtained by interpolation.

Ad. 9: Plant: growth habit at inflorescence emergence

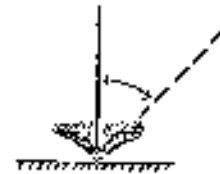
The growth habit should be assessed visually from the attitude of the leaves of the plant as a whole. The angle formed by the imaginary line through the region of greatest leaf density and the vertical should be used.



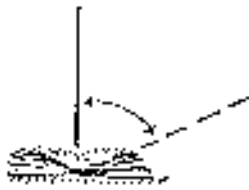
1
erect



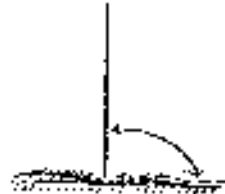
3
semi-erect



5
medium



7
semi-prostrate



9
prostrate

IX. Literature

Fermanian, T.W. Haley, J.E. Wessels, K. Wilkinson, H.T. Han, S., Characterization of tall fescue and perennial ryegrass cultivars. *Journal of Turfgrass Management*. 1996. 1: 4, 63-79

X. Technical Questionnaire

	Reference Number (not to be filled in by the applicant)
<p>TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights</p>	
1. Species	<p><i>Festuca pratensis</i> Huds. MEADOW FESCUE <i>Festuca arundinacea</i> Schreb L. TALL FESCUE</p>
2. Applicant (Name and address)	
3. Proposed denomination or breeder's reference	

4. Information on origin, maintenance and reproduction of the variety

4.1 Origin

4.3 Other information

5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the state of expression which best corresponds).

Characteristics	Example Varieties	Note
5.1 Ploidy (1)		
diploid	Cosmos 11 (F.p.)	2[]
tetraploid		4[]
hexaploid	Ibis (F.a.)	6[]
octoploid		8[]
decaploid	Kasba (F.a.)	10[]
amphiploid	Lunibelle (F.a.)	11[]
5.2 Leaf: intensity of green color at the end of vegetation before (5) vernalization		
very light		1[]
light	Kasba (F.a.)	3[]
medium	Belimo Bundy (F.p.) Sopline (F.a.)	5[]
dark	Borneo (F.a.), Stella (F.p.)	7[]
very dark	Coronado (F.a.)	9[]
5.3 Plant: time of inflorescence emergence after period of (8) vernalization		
very early	Gardian (F.a.)	1[]
early	Ibis (F.a.) Salfat (F.p.)	3[]
medium	Cosmos 11 (F.p.) Villageoise (F.a.)	5[]
late	Barcel (F.a.) Bundy (F.p.)	7[]
very late	Bariane (F.a.)	9[]

7. Additional information which may help to distinguish the variety

7.1 Resistance to pests and diseases

7.2 Special conditions for the examination of the variety

7.3 Other information

8. Authorization for release

- (a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?

Yes [] No []

- (b) Has such authorization been obtained?

Yes [] No []

If the answer to that question is yes, please attach a copy of such an authorization.

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